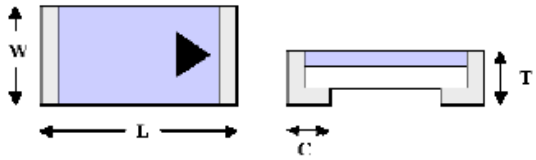
TS4148

0.35 / 0.5AMPS High Speed Switching Diode

Voltage Range
100 Volts
Current
0.35 / 0.5 Ampere

Features

- ✧ For surface mounted application
- ✧ Low forward voltage drop
- ✧ High Current capability
- ✧ Fast switching for high efficiency
- ✧ High surge current capability
- ✧ Chip version in 1206 and 0805, 0603
- ✧ High temperature soldering:
  260°C / 10 secondsat terminals



Item	1206	0805	0603
L	0.135(3.40) 0.119(3.0)	0.088(2.20) 0.072(1.8)	0.071(1.65) 0.59(1.45)
W	0.07(1.70) 0.054(1.30)	0.058(1.45) 0.042(1.05)	0.039(0.9) 0.027(0.7)
T	0.038(0.95) 0.03(0.75)	0.038(0.95) 0.03(0.75)	0.034(0.75) 0.026(0.55)
C	0.03(0.75) 0.014(0.35)	0.026(0.65) 0.01(0.25)	0.018(0.45) 0.010(0.25)

Dimensions in inches and (millimeters)

Mechanical Data

- ✧ Cases: 1206, 0805 or 0603
- ✧ Terminals: Tin plated
- ✧ Polarity: indicated by cathode arrow
- ✧ Packaging: 8 mm tape per EIA STD RS-481

Maximum Ratings and Electrical Characteristics

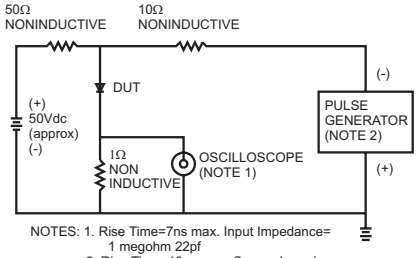
Rating at 25℃ ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%

Type Number	Symbol	0603	1206	0805	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100			V
Reverse Voltage	V_R	75			V
Maximum Average Forward Rectified Current Resistive Load f>50Hz	$I_{F(AV)}$	150			mA
Peak Forward Surge Current 8.3 ms Half Sine-wave 1 uS	I_{FSM}	350	500		mA
		2.0			A
Maximum Instantaneous Forward Voltage @100mA	V_F	1.0			V
Maximum D.C. Reverse Current @ Tc=25℃ VR=20V at Rated DC Blocking Voltage @ Tc=125℃ VR=20V	I_R	25 50			nA uA
Typical Reverse Recovery Time(Note 2) T_J=25℃	Trr	5.0			nS
Typical Junction Capacitance (Note 1)	Cj	1.55	1.65	1.60	pF
Typical Thermal Resistance	$R\theta_{JA}$ $R\theta_{JC}$	200 105	190 80	150 60	℃/W
Power Dissipation	P_D	350	500		mW
Operating Junction Temperature Range	T_J	-65 to + 200			℃
Storage Temperature Range	T_{STG}	-65 to + 200			℃

Notes: 1. Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.
2. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, Recover to 0.25A.

RATINGS AND CHARACTERISTIC CURVES (TS4148)

FIG.1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES: 1. Rise Time=7ns max. Input Impedance= 1 megohm 22pf
2. Rise Time=10ns max. Sourse Impedance= 50 ohms

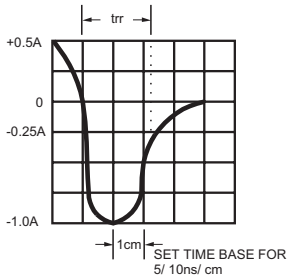


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

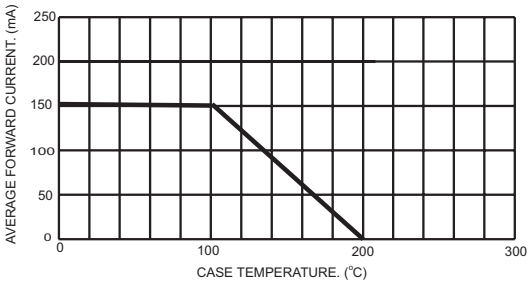


FIG.3- TYPICAL REVERSE CHARACTERISTICS

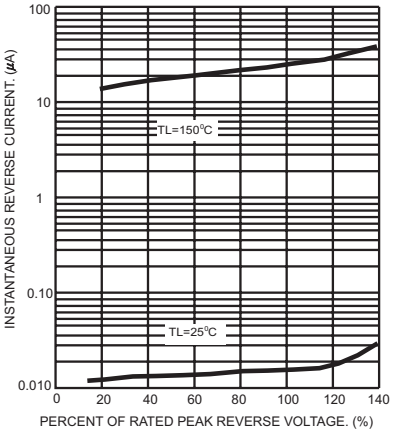


FIG.4- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

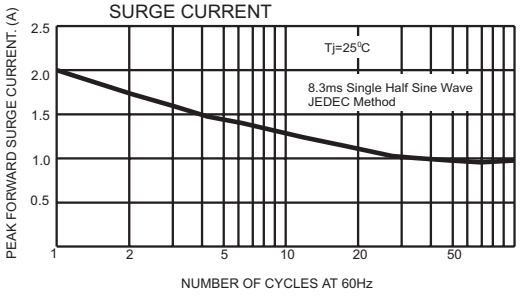


FIG.5- TYPICAL JUNCTION CAPACITANCE

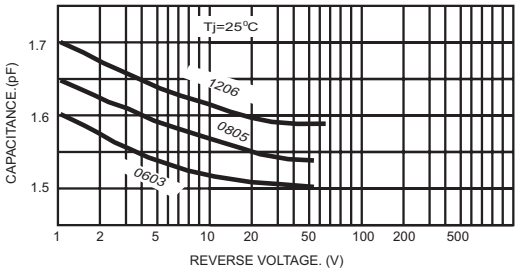


FIG.6- TYPICAL FORWARD CHARACTERISTICS